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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
JONES, DAMERON LEVEST	

ART UNIT	PAPER NUMBER
1618	

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/692,311	COUNSELL ET AL.	
	Examiner	Art Unit	
	D. L. Jones	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) *6 and 31-49* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,8,14-30 and 50* is/are rejected.

7)☒ Claim(s) *9-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

ACKNOWLEDGMENTS

1. The Examiner acknowledges the amendment filed 6/6/05 wherein the second originally filed claim 26 and 27-48 were renumbered as 27-49. Also, claim 50 was added.

Note: Claims 1-50 are pending.

APPLICANT'S INVENTION

2. Applicant's invention is directed to lipoprotein like oil in water emulsions, oil and water emulsions, methods of computerizing tomographic images, and a method of making a blood pool selective to an oil in water emulsion.

RESPONSE TO APPLICANT'S ELECTION

3. The Examiner acknowledges Applicant's election of Group I (claims 1-30 and newly added claim 50 with traverse. Group I is directed to a surface modified lipoprotein like oil and water emulsion as set forth in independent claims 1 and 50. Also, Applicant elected the species wherein the non-polar lipid is triolein; the polar lipid emulsifier is dioleoylphosphatidylcholine; the sterol is cholesterol; the osmolality adjusting agent is an anhydrous glycerol; the antioxidant is alpha tocopherol; and the radiopharmaceutical is ethyl iopanoate. The traversal is on the grounds that independent claim 1 comprises two components and the core can comprise other components. Applicant's arguments are not persuasive for reasons of record in the office action mailed 12/1/04 and because the according to MPEP 806.05 when inventions are distinct (1) the process for using the product as claimed may be practiced

with another materially different product or (2) if the product as claimed may be used in a materially different process of using that product. In particular, in the instant invention, the products may be used for tomographical imaging, treating a living being in need of treatment, or in a method of making blood pool selective oil in water emulsions. Thus, various processes may be used for the products of claims 1, 31, and 36.

It is also noted that while Applicant claims that each product claim comprises two components and the core may comprise other components, Applicant did not state on record that such components would be obvious in the core or would not alter the overall physical and chemical properties of the emulsion. Furthermore, as evidence by the prior art cited below, the emulsion of independent claim 1 is known in the prior art; however, those additional limitations (components) are not necessary anticipated or obvious over the prior art of record. Also, Applicant was electing a species depending and identifying the components depending upon the elected group. Thus, if the elected group comprises an osmolality adjusting agent, antioxidant, radiopharmaceutical, etc., then it would be expected that the elected species contain those component. As a result, it should not be concluded that since the Examiner respectfully requested that the components be identified that all of the product claims are not separate or distinct. Hence, the restriction is deemed proper and is made FINAL.

Note #1: Initially, the Examiner searched for Applicant's elected species and did not find prior art that could be used to reject the instant invention (however, the claims could be rejected under double patenting as set forth below). Thus, the search was expanded to non-polar lipid is triolein; the polar lipid emulsifier is

distearoylphosphatidylcholine; and the sterol is cholesterol. The search was not further expanded because prior art was found which could be used to reject Applicant's claims.

Note #2: Claims 1-5, 7-30, and 50 read on Applicant's elected species for Group I wherein non-polar lipid is triolein; the polar lipid emulsifier is dioleoylphosphatidylcholine; and the sterol is cholesterol. (***Note***: The product of elected Group I does not require an osmolality adjusting agent, an antioxidant, or a radiopharmaceutical).

WITHDRAWN CLAIMS

4. Claims 6 and 31-49 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention/species.

DOUBLE PATENTING REJECTIONS

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-5 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,645,463. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are directed to oil in water emulsions. In particular, both emulsions comprise a derivatized polyethylene glycol, a sterol, and a non-polar lipid. In addition, the patented invention comprises glycerol and alpha tocopherol which is the osmolality adjusting agent and the antioxidant, respectively. Thus, it would have been obvious to one of ordinary skill in the art that the patented invention is encompassed in the instant invention since the present invention is directed

to a product comprising an emulsifier, sterol, and derivatized polyethylene glycol as disclosed in the patented invention which list a specific emulsifier and sterol.

112 FIRST PARAGRAPH REJECTIONS (Prevention Claim)

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 25 and 26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, does not provide enablement for the preventing of oxidation of the emulsion. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

There are several guidelines when determining if the specification of an application allows the skilled artisan to practice the invention without undue experimentation. The factors to be considered in determining what constitutes undue experimentation were affirmed by the court in *In re Wands* (8 USPQ2d 1400 (CAFC 1986)). These factors are the quantity of experimentation; the amount of direction or guidance presented in the specification; the presence or absence of working examples; the nature of the invention; the state of the prior art; the level of skill of those in the art; predictability or unpredictability of the art; and the breadth of the claims.

The disclosure of the instant invention is directed to a method of preventing the oxidation of the emulsion as set forth in claims 25 and 26. A skilled practitioner in the art would recognize that an antioxidant may be used to reduce oxidation in the emulsion. However, the preventing of oxidation of the emulsion is interpreted as oxidation of the emulsion ***never*** occurs, not that the presence of an antioxidant reduces

the chances of oxidation of the emulsion. Hence, the amount of guidance present in the specification, the absence of data indicating that the oxidation of the emulsion never occurs and the state of the prior art, it is the Examiner's position that a reduction in oxidation, not complete inhibition of oxidation occurs when the antioxidant is added.

The amount of guidance necessary to perform Applicant's invention would result in undue experimentation because the skilled artisan would be forced to randomly test numerous conditions and amount antioxidants to determine which ones prevent oxidation. Hence, the amount of guidance present in the specification fails to present the necessary instruction such that one can readily determine and use the appropriate antioxidant to ensure that oxidation of the emulsion NEVER occurs.

112 SECOND PARAGRAPH REJECTIONS

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-5, 17-29, and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-5 and 17-29: The claims as written are ambiguous because one cannot readily ascertain what is being claimed. For example, in independent claim 1, is the only the polyethylene glycol derivatized or is both the polyethylene glycol and polyethylene glycol linked lipid derivatized?. In independent claim 1, lines 3-4, the diameter of the oil phase is defined as between 50 to 150 nm; however, in line 4, it is disclosed that 'at least 98% of the particles being between 50 to **250 nm**'. Did Applicant intend to write '150 nm' instead of '250 nm'? In independent claim 1, line 5, it is unclear

what Applicant intends by the phrase' lipophilic agent' and 'lipophilic derivative of a water soluble agent'. In regards to the lipophilic derivative, it is unclear what portion of the parent structure and what particular parent structure Applicant is referring to which is compatible with the instant invention. In regards to the lipophilic agent, it is unclear what particular lipophilic agents Applicant is referring to which are compatible with the instant invention such that the desired emulsion is obtained. Furthermore, the claim is ambiguous because when Applicant describes the core, it is stated that it is either diagnostically or therapeutically active or inactive (see claim 1, lines 6). Such statement is confusing because all components in any chemical composition are either active or inactive. Thus, it is unclear what distinguishable properties/characteristics Applicant is attempting to incorporate in the claim by using such terminology. In other words, as long as the core contains some type of 'lipophilic agent' or 'lipophilic derivative of a water soluble agent' the active/inactive limitation will be met. Since claims 2-5 and 17-29 depend upon independent claim 1 which is ambiguous, those dependent claims are also vague and indefinite.

Claim 50: The claim as written is ambiguous because one cannot readily ascertain what is being claimed. In the claim 1 (line 3), initially, the diameter of the oil phase is defined as between 50 to 150 nm; however, in line 4, it is disclosed that 'at least 98% of the particles being between 50 to **250 nm**'. Did Applicant intend to write '150 nm' instead of '250 nm'?

102 REJECTIONS

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-5, 7, 8, 14-17, 19-22, 27-30, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Wheeler et al (Journal of Pharmaceutical Sciences, 1994, Vol. 83, No. 11, pp. 1584-1564).

Wheeler et al disclose polyethylene glycol modified phospholipids stabilized emulsions prepared from triacylglycerol. In particular, Wheeler et al disclose emulsion particles prepared in the presence of distearoylphosphatidylcholine (DSPC): cholesterol. [3H]-MePEGS-2000 distearoylphosphatidylethanolamine (DSPE) and [14C]triolein was used as radioactive markers for the emulsion (see entire document, especially, page 1559, first column, 'Preparation of Emulsion', second column, second and third complete paragraphs). Thus, both Wheeler et al and Applicant disclose and emulsion wherein the non-polar lipid is triolein; the polar lipid emulsifier is distearoylphosphatidylcholine; and the sterol is cholesterol.

CLAIM OBJECTIONS

13. Claims 9-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Note: It should be noted that the claims are allowable over the prior art of record as they relate to Applicant's elected species only. In particular, Applicant elected the species wherein the non-polar lipid is triolein; the polar lipid emulsifier is dioleoylphosphatidylcholine; the sterol is cholesterol; the osmolality adjusting agent is an anhydrous glycerol; the antioxidant is alpha tocopherol; and the radiopharmaceutical is ethyl iopanoate.

COMMENTS/NOTES

14. It should be noted that no prior art has been cited against Applicant's elected species. However, Applicant MUST address and overcome the double patenting rejection. The closest prior art is that of Modi (US Patent No. 6,214,375). However, Modi is different from the instant invention because it is directed to a liposome composition and not an emulsion. A liposome composition is different from an emulsion. In particular, an emulsion is defined as a stable mixture of two or more immiscible liquids held in suspension by small percentages of substances called emulsifiers (see any standard chemical dictionary, e.g., Hawley's Condensed Chemical Dictionary , 12th Edition, by Richard J. Lewis, Sr., page 461). A liposome (see Modi , US Patent No. 6,214,375, column 1, lines 32-54) is made up of components of cell membranes and are compatible with the skin superficial layer structure. Lipids, lying in the lamellae, have a bilayer structure similar to that of biological membranes. They have a lipidic layer enclosed in a water layer. The function of the lipid layer is double, on one hand, it represent the most important part of the barrier of the cutaneous

permeability, on the other hand, it maintains the hydration of the skin, indispensable for the integrity of the skin.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. L. Jones whose telephone number is (571) 272-0617. The examiner can normally be reached on Mon.-Fri., 6:45 a.m. - 3:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D. L. Jones
Primary Examiner
Art Unit 1618

December 5, 2006